BR-8127A

# SCINTILLATION SYSTEMS CATALOG

*LS 6000 Series Supplies and Accessories*

*Packaging – Processing*

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# LS 6000 Series Scintillation Systems

*Tomorrow's Technology Today*

The LS 6000 Series Scintillation Systems offer the best state-of-the-art electronics available. The 32,768 Channel Multichannel Analyzer provides eight times the resolution of other scintillation counters, offering:

- A more precise quench monitor with H-Number Plus.
- Superior multilabel studies.
- Quench determination without quench curves.
- Automatic color detection and correction.
- Luminescence correction.

A unique Programmable Coincidence Gate allows optimization of counting results when using solid scintillators such as Ready Cap® and Ready Filter.™

## Safer Scintillation Supplies

For a cleaner lab and a cleaner environment, Beckman offers solid scintillants and an environmentally safe, biodegradable cocktail. Ready Cap and Ready Filter solid scintillators allow you to count without cocktail for filter samples and nonvolatile samples, 200 µL or less. And Ready Safe™ offers a biodegradable liquid cocktail for those general-purpose applications when a cocktail is needed. A full line of specialized cocktails is also available to meet specialized application needs.

## Flexible Data Handling Software

Data handling with the LS 6000 Series is much more flexible because you are not locked into redundant computer technology. Applications software packages are available to meet your needs including radioimmunoassays, receptor binding studies, fraction and spectrum analysis and multiple isotope identification.

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*Use this catalog to order items for your Beckman scintillation system or other liquid scintillation counters. For more information on LS 6000 Series Scintillation Systems, order BR-7932B from your local Beckman representative.*


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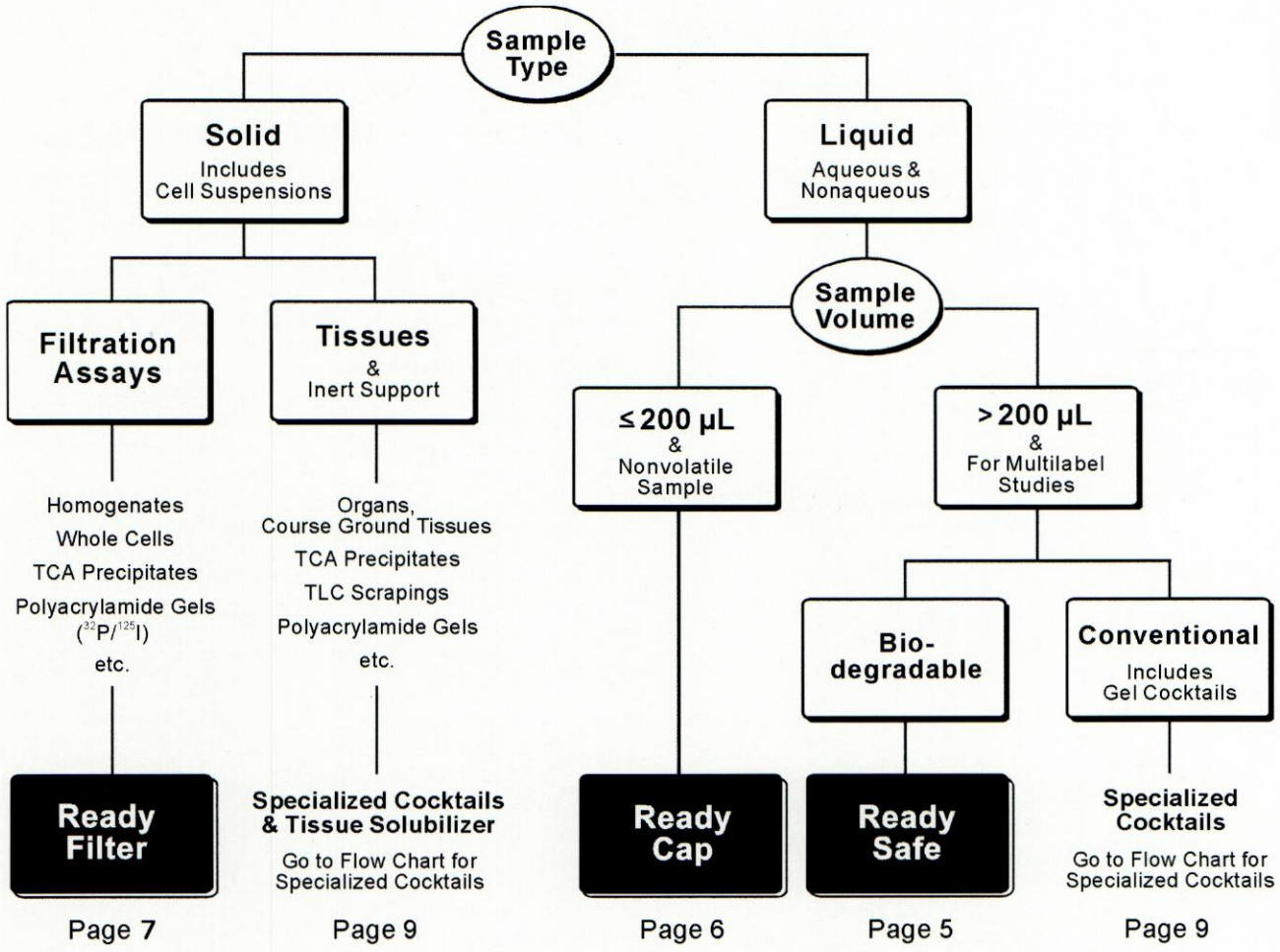
# Safer Scintillation Supplies

## Safer Scintillation Supplies Selection Chart

Beckman's line of safer scintillation supplies includes our unique solid scintillants for counting without cocktail and a biodegradable environmentally safe cocktail.





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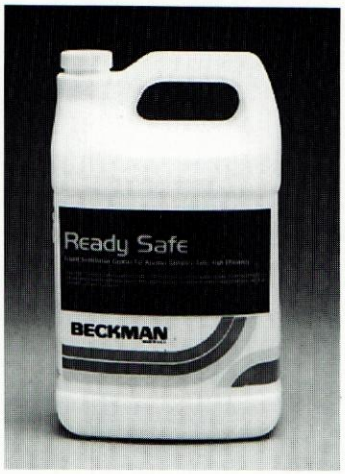
# Safer Scintillation Supplies



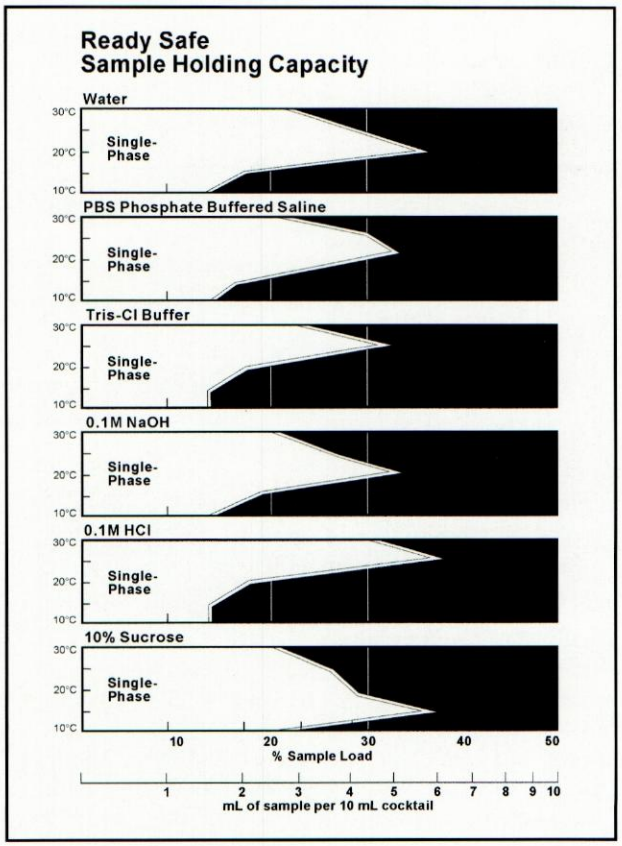

*Part No. 141349*

## Ready Safe

| Part No. | Description |
|---|---|
| 141349 | 4 × 3.75 Plastic Containers (15 Liters) |

### Multipurpose, Biodegradable Cocktail

Ready Safe™ is a liquid scintillation cocktail formulated for use with multilabel, volatile samples >200 µL. It is nonhazardous and has a high holding capacity for reduced cocktail consumption.



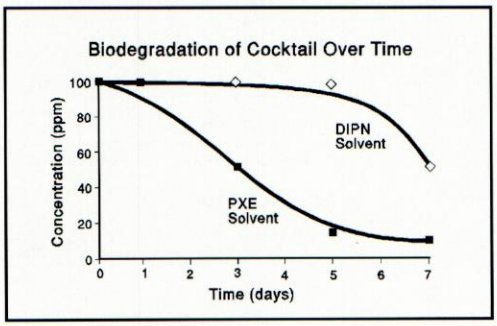

### Excellent Sample Holding Capacity

As shown in the accompanying phase diagram, Ready Safe exhibits excellent sample holding characteristics for a wide variety of common sample types. This cocktail may truly be regarded as multipurpose.

### Typical Counting Efficiencies for Tritium Using Ready Safe

| | Standard Vials | | Mini-Vials | |
|---|---|---|---|---|
| Sample | % Efficiency | Appearance | % Efficiency | Appearance |
| Water | 45.8 | Clear | 39.3 | Clear |
| PBS Buffer | 45.1 | Clear | 40.3 | Clear |
| 1.0 M NaCl | 45.6 | Clear | 40.6 | Clear |
| 0.1 M HCl | 44.2 | Clear | 37.7 | Clear |
| 0.1 M NaOH | 45.2 | Clear | 39.4 | Clear |
| 8.0 M Urea | 45.9 | Clear | — | — |
| 10% Sucrose | 44.5 | Clear | 41.0 | Clear |

*Standard vials: 1 mL sample + 10 mL cocktail.*
*Mini-vials: 1 mL sample + 5 mL cocktail.*




### Biodegradability

Where state, local and institutional regulations permit, Ready Safe is drain disposable, helping to reduce disposal costs. A comparative study, published in the journal *Health Physics**, demonstrates that PXE degrades more rapidly than other solvents used in commercially available, environmentally safe cocktails.

* *Data taken from Klein, R.C. and Gershey, E.L., Biodegradable Liquid Scintillation Counting Cocktails.* Health Physics *59, 461-470 (1990).*

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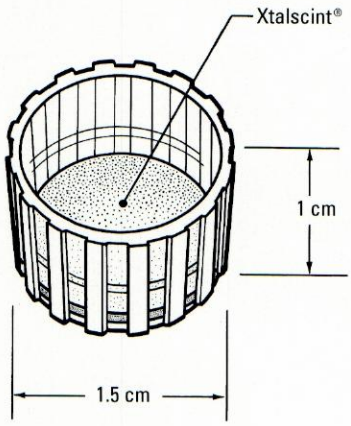
# Safer Scintillation Supplies



### Counting Efficiencies

The following values were obtained with dry Ready Caps.

| Isotope | Counting Efficiency |
|---|---|
| $^{3}H$ | 35-50% |
| $^{14}C$ | 80-90% |
| $^{125}I$ | 75-85% |
| $^{32}P$ | 90-100% |

*If counting in an LS 6000 Series scintillation counter, use the Xtalscint option, if installed. If not installed or when using other counters, use a wide open window and turn off the External Standard Quench Monitor.*

## Ready Cap

Ready Cap® is a small container coated on the bottom with Xtalscint® solid scintillator. It is recommended for liquid samples containing *nonvolatile radioactivity* that are:

- **200 µL or less.**
- **Not strongly colored.** Red, yellow, green and brown colors absorb the light emitted from Ready Cap.
- **In low molarity buffers or organic solvents.** Less than 1 M is recommended; gradient samples of sucrose, or CsCl, nonvolatile solvents, e.g., glycerol, are not recommended.

| Part No. | Description |
|---|---|
| 534181 | Ready Cap, Box of 500 |

### How to Use Ready Cap

1. **Add Sample**
   Pipette up to 200 µL of aqueous or nonaqueous solution containing nonvolatile radioactivity.
2. **Dry**
   Use any of the following methods for drying Ready Cap.
   - **Xtalscint Dryer.** Uses heated forced air and dries 50 Ready Caps simultaneously in a numbered tray. Drying time is 45 minutes or less, depending on solvent.
   - **Heat Lamp**.
   - **Forced-Air Convection Oven** (60°C).
   - **Air Dry (Overnight)**.
3. **Count**
   Place in standard 20 mL glass or plastic counting vials. The Ready Caps are easy to remove and the vials may be reused without fear of contamination.

### Ready Cap Applications

Whole cell and membrane receptor assays [for counting reference (dose) standards]; transport studies; enzyme assays; radioimmunoassays; thymidine incorporation; tumor response assays; counting of alpha emitters with low background; cytotoxicity assays; counting whole blood without bleaching.

For details of use of Ready Cap with these and other applications, see the *Scintillation Supplies and Sample Preparation Guide, BR-7884B.*

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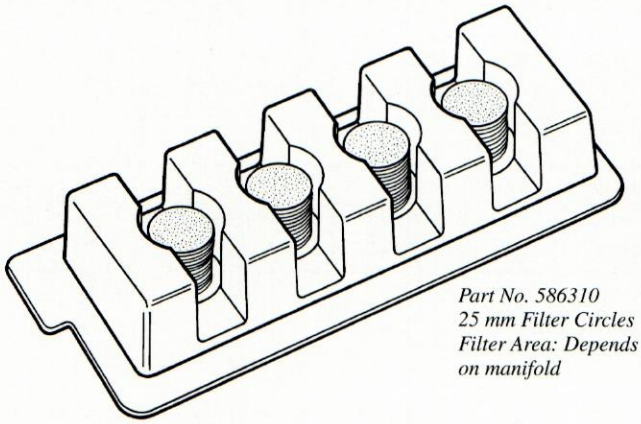
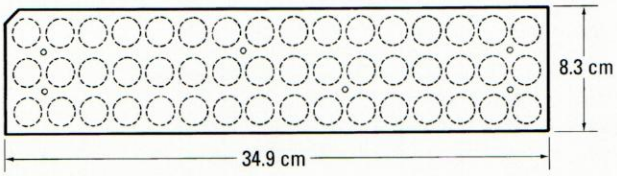
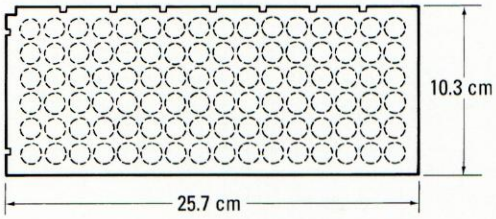


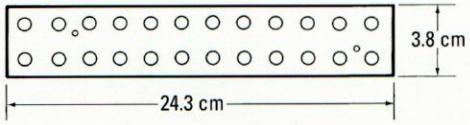
*Part No. 586310*
*25 mm Filter Circles*
*Filter Area: Depends on manifold*




*Part No. 586302*
*Filter Mat for Brandel Harvester MB-48R*
*Filter Area: ~250 mm² (perforated)*




*Part No. 586303*
*Filter Mat for Skatron and Compatible Harvesters*
*Filter Area: 112 mm² (perforated)*




*Part No. 586304*
*Filter Mat for PHD Harvester (200A and 290)*
*Filter Area: 20 mm² (unperforated)*

## Ready Filter

Ready Filter™ is a glass fiber filter coated on one side with Xtalscint® solid scintillator. For ease of orientation, the glass fiber side is colored blue. (Skatron Filter mats are white on both sides.) Ready Filter has the sample retention characteristics of a Whatman GF/B filter. This is equivalent to a pore size of 1 micron.

| Part No. | Description |
|---|---|
| **586310** | 25 mm Circles, 4 Boxes, 100 per Box |
| **586302** | Mats for Brandel 3 × 16 Harvester, Box of 50 |
| **586303** | Mats for Skatron 6 × 16 Harvester, Box of 50 |
| **586304** | Mats for PHD 2 × 12 Harvester, Box of 50 |

### How to Use Ready Filter

1. **Add Sample**
   Filter your sample with your manifold or harvester.
2. **Dry**
   Use any of the following methods for drying Ready Filter.
   - **Xtalscint Dryer** (For Ready Filter Circles only). Uses heated forced air and dries up to 36 circles simultaneously in stackable trays. Drying time is 45 minutes or less, depending on solvent.
   - **Heat Lamp**.
   - **Forced-Air Convection Oven** (60°C).
   - **Air Dry** (Overnight).
3. **Count**
   Place or punch into glass or plastic counting vials.

### Counting Efficiencies

The following values were obtained with dry Ready Filters.

| Isotope | Counting Efficiency |
|---|---|
| $^{3}H$ | > 20% |
| $^{14}C$ | 70-90% |
| $^{125}I$ | 45-50% |
| $^{32}P$ | 70-95% |

*If counting in an LS 6000 Series scintillation counter, use the Xtalscint option, if installed. If not installed or when using other counters, use a wide open window and turn off the External Standard Quench Monitor.*

### Ready Filter Applications

For detailed listings of Ready Filter applications, request *BR-7884B, Scintillation Supplies and Sample Preparation Guide*, from your local Beckman representative.

Note: Ready Filter is not recommended for wipe tests.

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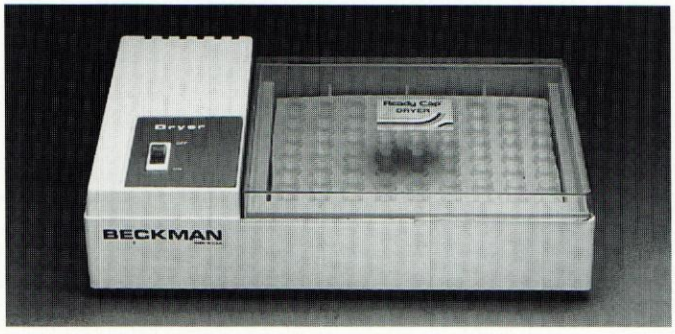
# Safer Scintillation Supplies

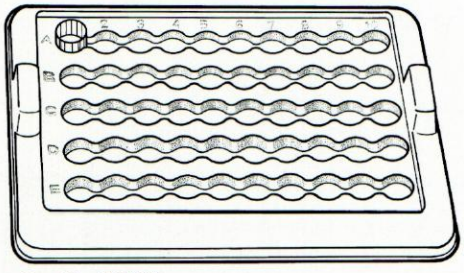



*Part No. 655805*

## Xtalscint Dryer

This dryer uses heated forced air to dry up to 50 Ready Caps or 36 Ready Filter™ circles in three stackable trays. Drying time is 45 minutes or less.

| Part No. | Description |
|---|---|
| 655805 | Xtalscint Dryer, 120 ± 15 volts, 50-60 Hz |
| 450036 | Xtalscint Dryer, 240 ± 24 volts, 50-60 Hz |

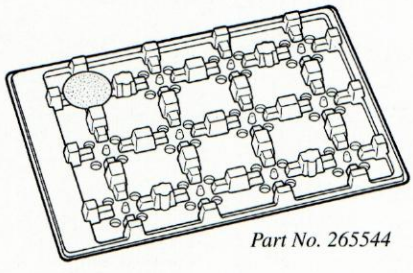


*Part No. 265543*

## Ready Cap® Drying Trays

For use in the Xtalscint® Dryer.

| Part No. | Description |
|---|---|
| 265543 | Pack of 10 trays and 3 baffles |



*Part No. 265544*

## Ready Filter Drying Trays

For use in the Xtalscint Dryer.

| Part No. | Description |
|---|---|
| 265544 | Pack of 10 trays and 3 baffles |

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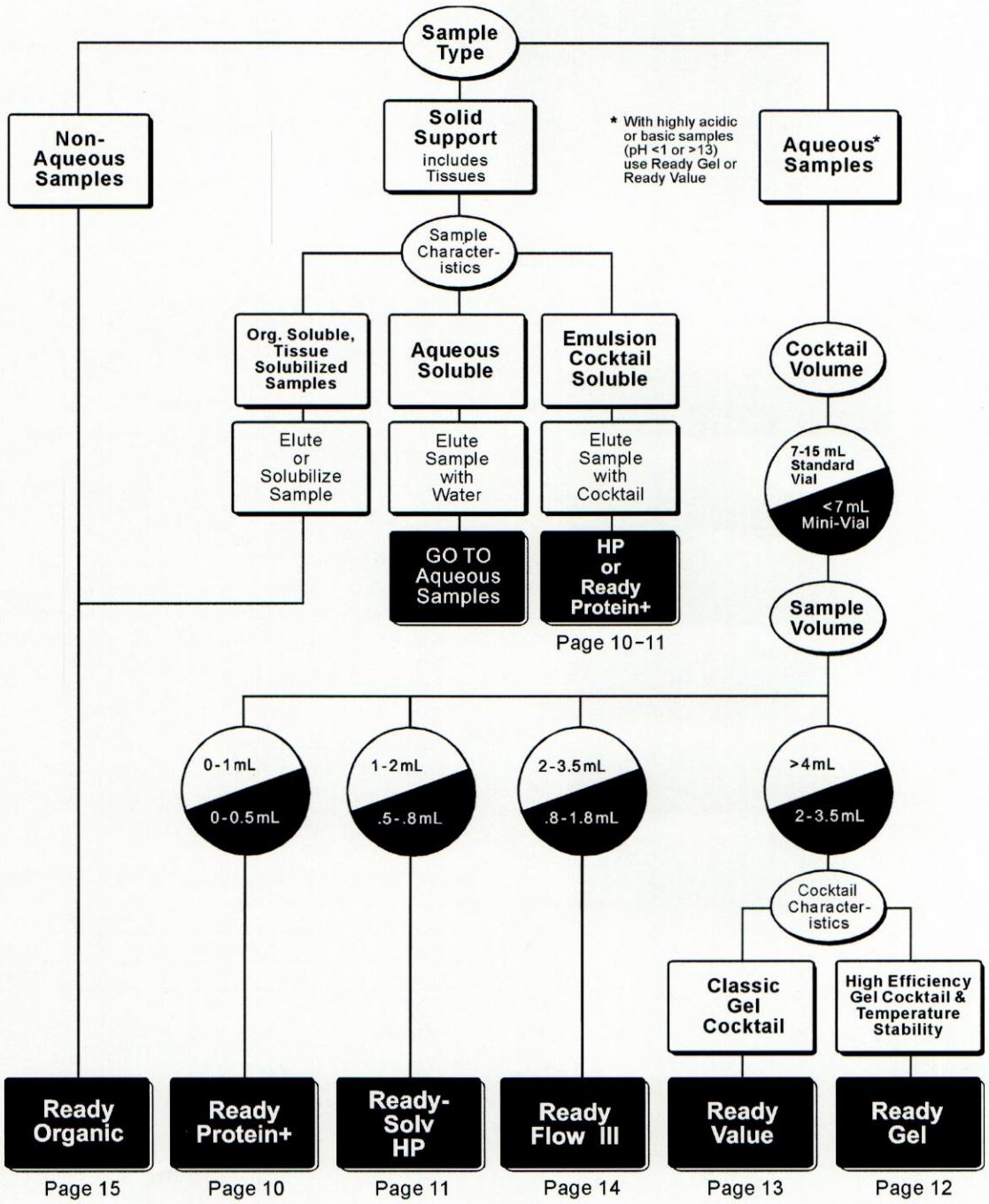
# Specialized Scintillation Cocktails

## Selection Chart for Specialized Scintillation Cocktails

Beckman also produces a series of cocktails formulated for special applications. These are based on pseudocumene, a solvent with lower volatility and higher flashpoint than other scintillation solvents like toluene or p-xylene.

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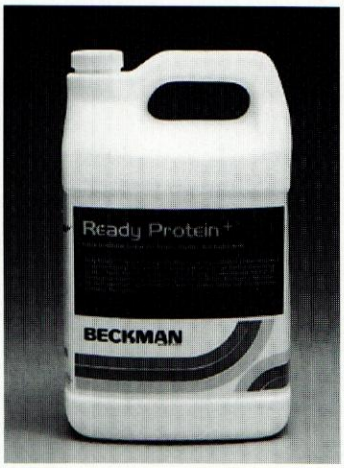
# Specialized Scintillation Cocktails



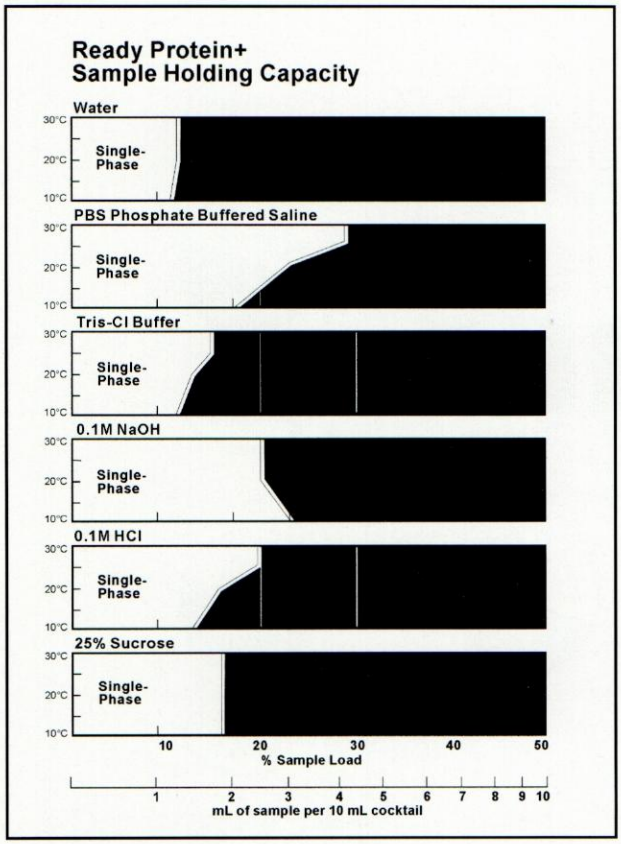

*Part No. 586604*

## Ready Protein+

| Part No. | Description |
|---|---|
| 586604 | 4 × 3.75 L Plastic Containers (15 Liters) |

### For Filter Counting

Ready Protein+™ contains a patented blend of emulsifiers that is very effective for solubilizing biological precipitates from filters. It dissolves nitrocellulose and breaks up glass fiber filters. The sample is brought into intimate contact with the cocktail improving efficiency and producing more accurate results. It helps reduce or eliminate self-absorption quench when counting filters in cocktail.




### Sample Capacity

Although Ready Protein+ is designed for a 9% sample load for typical biological samples, capacities as high as 30% may be achieved with some buffers. Refer to the phase diagram.

### Time and Temperature Stability

Ready Protein+ has been tested for single-phase stability at both 10°C and 30°C for a minimum of 72 hours. At common sample volumes, i.e., less than 10% sample load, most samples remain solubilized within this temperature range.

### Quench Resistance

Ready Protein+ shows considerable resistance to quench. For example, when the volume of phosphate buffered saline is increased from 1 to 2 mL in 10 mL of cocktail, the tritium counting efficiency varies from 46% to 44.6%, a drop of only 1.4%.

### High Counting Efficiency

As indicated in the table below, tritium counting efficiencies of 46% or greater are possible with 1 mL of sample in 10 mL of cocktail (9% sample load).

### Typical Counting Efficiencies for Tritium Using Ready Protein+

| | Standard Vials | |
|---|---|---|
| Sample | % Efficiency | Appearance |
| Water | 46.2 | Clear |
| PBS Buffer | 46.1 | Clear |
| 0.1 M HCl | 45.6 | Clear |
| 0.1 M NaOH | 46.1 | Clear |
| 20% Sucrose | 45.8 | Clear |

*Standard vials: 1 mL sample + 10 mL cocktail.*

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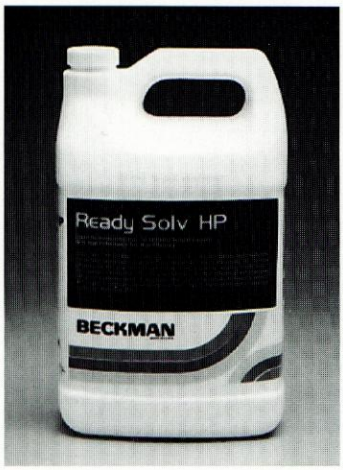


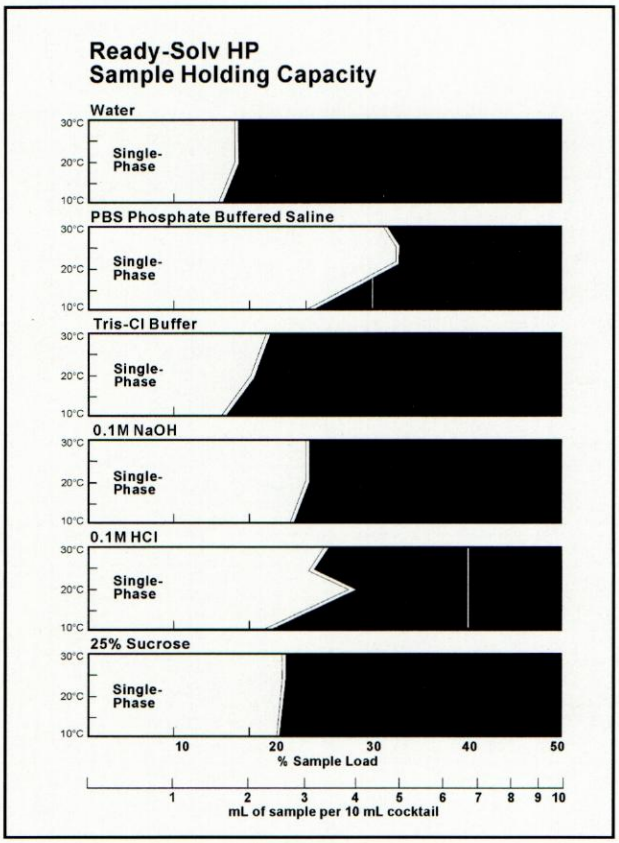

*Part No. 586605*

## Ready-Solv HP

| Part No. | Description |
|---|---|
| 586605 | 4 × 3.75 L Plastic Containers (15 Liters) |

### For High Performance with Aqueous Samples

Ready-Solv™ HP is designed for investigators who need the best counting efficiency with a wide variety of different types of aqueous samples. High counting efficiency can increase sample throughput by decreasing counting time when preset error counting is performed.




### High Sample Loads

Although Ready-Solv HP is ideally suited to the frequently encountered sample size of 1 mL in 10 mL (9% sample load), it will hold most aqueous samples as a continuous clear liquid emulsion from zero to the recommended capacity with no two-phase breaks. High sample load means that you can add more sample or use less cocktail. Using less cocktail keeps operating costs down.

### Time and Temperature Stability

Each lot of Ready-Solv HP is tested to ensure single-phase stability at 10°C and 30°C. Samples incorporated into the cocktail are stable for counting for a minimum of 72 hours at these temperatures. This means that whether you count your samples overnight or on weekends, you can be assured of stability of counting conditions, irrespective of temperature fluctuations. Use the accompanying phase diagram to determine sample load percentages that are free of temperature effect.

### Constant Efficiency

Ready-Solv HP cocktail resists the quenching effect of increasing sample load. For example, while tritium efficiency for a 1% sample load is typically 45%, it is still at 42% if the sample load is increased to 16%. This means that counting efficiency remains relatively constant with a variety of aqueous sample volumes so that quench correction may be unnecessary.

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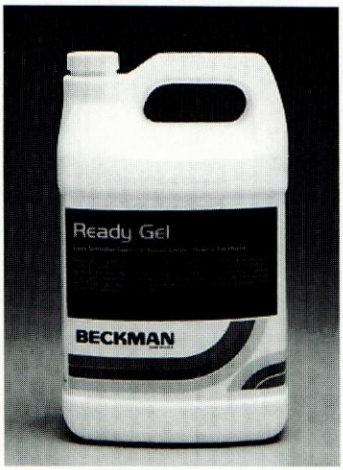
# Specialized Scintillation Cocktails




*Part No. 586601*

## Ready Gel

| Part No. | Description |
|---|---|
| 586601 | 4 × 3.75 L Plastic Containers (15 Liters) |

### For Extremes of pH, High Salt Concentrations and High Sample Loads

Ready Gel™ is well suited to experiments that generate samples with:

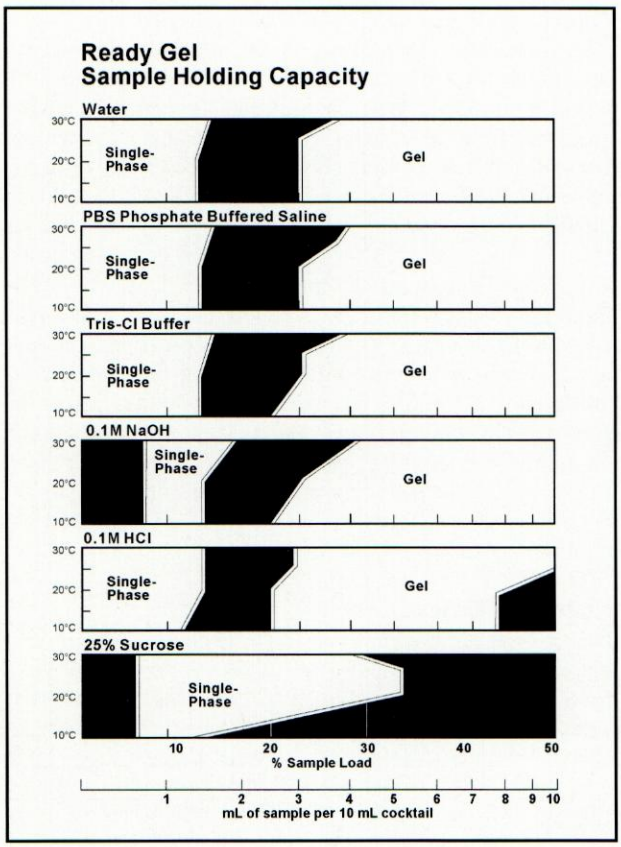
- pH values less than 3 or up to 10.
- Salt concentrations up to 2 M.
- Sample volume equal to cocktail volume.
- Organic solvents.

Ready Gel can eliminate the uncertainty associated with cloudy counting conditions. Samples are solubilized into a clear solution or, in the case of large volumes, into a stable gel.

### High Efficiency and Consistent Sample Capacity

Stability of clear liquid and gel phases for a variety of common sample types has been confirmed by a less than 3% change in counting efficiencies over a minimum 72 hour period at the temperature range of 10°C to 30°C. In practice, phase stability for both regions may last for months. Holding capacities for these samples are shown in the accompanying phase diagrams. Many cocktails have unstable gel regions above 25°C. Ready Gel maintains gel stability to 30°C.

Counting efficiency for tritium is virtually unsurpassed by any other high sample content cocktail.




### Typical Counting Efficiencies for Tritium Using Ready Gel

| | Standard Vials | | Mini-Vials | |
|---|---|---|---|---|
| Sample | % Efficiency | Appearance | % Efficiency | Appearance |
| Water | 40.8 | Clear | 32.2 | Gel |
| PBS Buffer | 40.7 | Clear | 32.8 | Gel |
| 1.0 M NaCl | 39.8 | Clear | — | — |
| 0.1 M HCl | 39.3 | Clear | 30.0 | Gel |
| 0.1 M NaOH | 40.2 | Clear | 33.0 | Gel |
| 8.0 M Urea | 39.8 | Clear | 30.8 | Gel |
| 20% Sucrose | 41.1 | Clear | 31.7 | Clear |

*Standard vials: 1 mL sample + 10 mL cocktail.*
*Mini-vials: 1 mL sample + 5 mL cocktail.*

| mL [³H] Water in 10 mL Ready Gel | 1 mL | 2 mL | 3 mL | 4 mL | 6 mL | 8 mL | 10 mL |
|---|---|---|---|---|---|---|---|
| % Efficiency | 39.5 | TWO-PHASE REGION | | 30.5 | 27.0 | 24.0 | 20.0 |
| CPM per 1000 DPM per mL of Sample | 395 | | | 1220 | 1620 | 1920 | 2000 |
| Time in Minutes to Reach 2% Error | 25.3 | | | 8.2 | 6.2 | 5.2 | 5.0 |

*When counting to a preset time, greater sample volume will mean more counts and therefore better statistical counting accuracy.*

### Low Activity and Low Level Samples

With low activity or low level samples, efficiency and throughput can be increased by taking advantage of the high sample holding capacity of Ready Gel. For example, to count to a 2% 2-sigma error, accumulate a total of 10,000 counts. To do this faster, add more sample. As illustrated in the table at left, although the counting efficiency may decline as more sample is added, more CPM are actually measured, reaching 10,000 counts more quickly.

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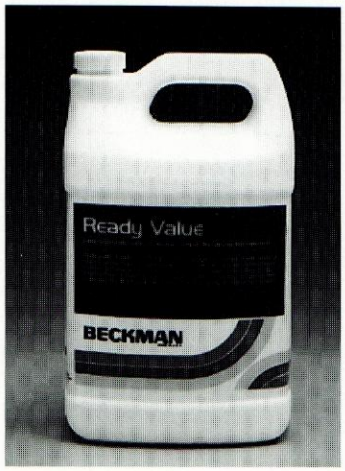


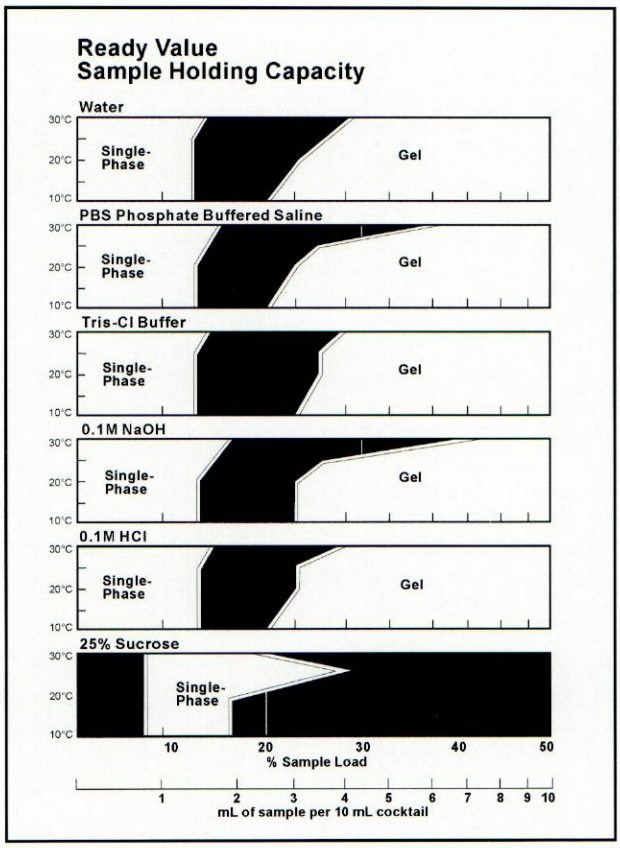

*Part No. 586602*

## Ready Value

| Part No. | Description |
|---|---|
| 586602 | 4 × 3.75 L Plastic Containers (15 Liters) |

### Economical Gel Cocktail

Ready Value™ is the ideal, economical choice for laboratories that count large numbers of aqueous samples under standard conditions. It eliminates the hazards and mess associated with preparing your own cocktail.




### Efficiency and Holding Capacity

Despite its economical price, good counting efficiencies can be expected for tritium. Additional cost savings can be obtained while retaining acceptable counting efficiencies for many applications by switching to mini-vials. Ready Value contains no Triton X-100 and so has no unstable, uncountable region between 0-5% sample load.

As illustrated in the accompanying phase diagram, Ready Value has a wide sample holding capacity forming either a clear, homogeneous solution or a stable gel under conditions of high sample load. It can even hold up to its own volume of sample. Phase stability for the clear liquid and gel regions has been demonstrated by less than a 3% change in counting efficiency for a minimum of 72 hours over the temperature range 10°C to 30°C. This versatility lets you keep one cocktail on hand for a wide variety of samples and volumes.

### Typical Counting Efficiencies for Tritium Using Ready Value

| | Standard Vials | | Mini-Vials | |
|---|---|---|---|---|
| Sample | % Efficiency | Appearance | % Efficiency | Appearance |
| Water | 37.9 | Clear | 30.2 | Gel |
| PBS Buffer | 37.8 | Clear | 31.0 | Gel |
| 1.0 M NaCl | 37.0 | Clear | — | — |
| 0.1 M HCl | 35.9 | Clear | 28.0 | Gel |
| 0.1 M NaOH | 36.9 | Clear | 30.3 | Gel |
| 8.0 M Urea | 36.8 | Clear | 28.5 | Gel |
| 20% Sucrose | 38.2 | Clear | 30.8 | Clear |

*Standard vials: 1 mL sample + 10 mL cocktail.*
*Mini-vials: 1 mL sample + 5 mL cocktail.*

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# Specialized Scintillation Cocktails

*Part No. 586603*

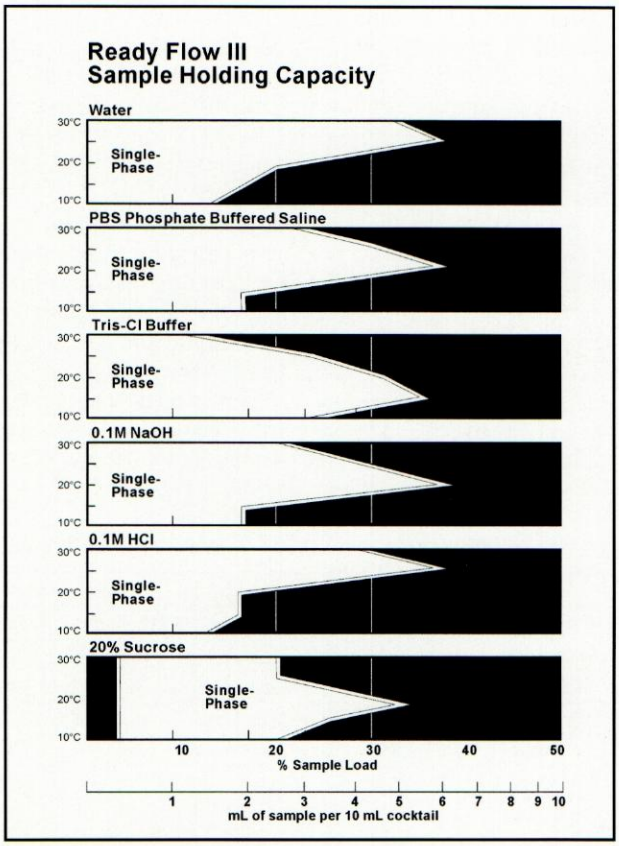
## Ready Flow III

| Part No. | Description |
|---|---|
| 586603 | 4 × 3.75 L Plastic Containers (15 Liters) |

### For Use with Miniature Vials

With Ready Flow III™, count aqueous or nonaqueous samples in as little as 1 mL of cocktail and still obtain excellent counting efficiencies.

Costs can be reduced by converting from standard (20 mL) vials to mini-vials or Microfuge® tubes, also reducing waste disposal costs.




### Typical Counting Efficiencies for Tritium Using Ready Flow III

| | Mini-Vials | | Microfuge Tubes | |
|---|---|---|---|---|
| Sample | % Efficiency | Appearance | % Efficiency | Appearance |
| Water | 34.4 | Clear | 42.8 | Clear |
| PBS Buffer | 34.3 | Clear | 41.7 | Clear |
| 1.0 M NaCl | 34.3 | Clear | 41.7 | Clear |
| 0.1 M HCl | 32.2 | Clear | 40.2 | Clear |
| 0.1 M NaOH | 33.4 | Clear | 42.4 | Clear |
| 8.0 M Urea | — | — | 42.5 | Clear |
| 10% Sucrose | 35.1 | Clear | 42.6 | Clear |

*Mini-vials: 1 mL sample + 5 mL cocktail.*
*Microfuge Tubes: 100 µL sample + 1 mL cocktail.*

### Counting Efficiencies

Ready Flow III provides high counting efficiencies even with small sample volumes. As the efficiency table indicates, counting efficiencies are in excess of 40% even when counting in Microfuge tubes.

### High Sample Holding Capacity

The accompanying phase diagram illustrates that the loading capacity can exceed 30% for a variety of commonly encountered sample types.

### For Use with Flow Detectors

On-line quantitation and automatic pooling of radiolabeled peaks using Ready Flow III and the dual-channel Model 171 Radioisotope Detector from Beckman reduce sample handling and lead to faster experimental conclusions. Ready Flow III provides nongelling properties, low viscosity and pH stability (pH 1-13).

### For Aqueous and Organic-Modified Aqueous Effluents Typical Counting Efficiencies for Tritium Using Ready Flow III

| | 17% Sample Load | | 25% Sample Load | |
|---|---|---|---|---|
| Sample | % Efficiency | Appearance | % Efficiency | Appearance |
| PBS Buffer | 34.3 | Clear | 32.1 | Clear |
| 1.0 M NaCl | 34.3 | Clear | — | — |
| 20% $CH_3CN$* | 34.0 | Clear | 31.7 | Clear |
| 50% $CH_3CN$** | 34.0 | Clear | 32.3 | Clear |
| 20% $CH_3OH$*** | 34.8 | Clear | 33.1 | Clear |
| 50% $CH_3OH$**** | 34.9 | Clear | 33.4 | Clear |

**$CH_3CN$/80% $H_2O$ **$CH_3CN$/50% $H_2O$ ***$CH_3OH$/80% $H_2O$ ****$CH_3OH$/50% $H_2O$*



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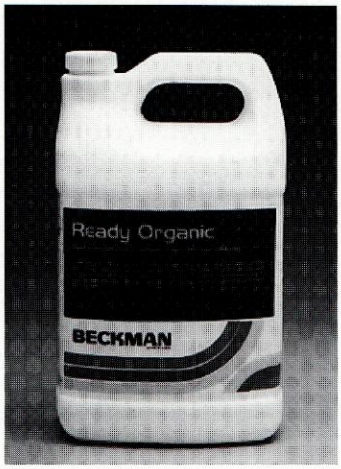
# Specialized Scintillation Cocktails




*Part No. 586600*

## Ready Organic

| Part No. | Description |
|---|---|
| 586600 | 4 × 3.75 L Plastic Containers (15 Liters) |

### For Organic Soluble Samples

Ready Organic™ does not contain emulsifiers and so is not miscible with water. This makes it ideal for radioassay procedures in which an aqueous radiolabeled substrate is transformed into an organic radiolabeled product (e.g., enzyme reactions*). The product may be quantified without prior separation of the reactants simply by adding Ready Organic and counting the radioactivity solubilized into the cocktail phase. This is one situation in which two-phase counting is advantageous.

* *Neumann, J.R., Morency, C.A. and Russian, K.O. A Novel Rapid Assay for Chloramphenicol Acetyltransferase Gene Expression.* BioTechniques *5, 444-447 (1987).*

### For Tissues

Ready Organic is the cocktail of choice for metabolism and other studies that require quantitation of radiolabeled compounds in tissues. It is fully compatible with BTS-450 and other tissue solubilizers, as well as other organic solvents used for extraction and precipitation of biological materials.

### High Counting Efficiency

With a counting efficiency as high as 62% for 1 mL of some samples, Ready Organic yields high counting efficiencies for all samples tested. The specially designed fluor system resists the effect of quenching at high sample volumes.

### Typical Counting Efficiencies for Tritium Using Ready Organic

| | Percent Efficiency in 10 mL Cocktail Sample Volume | | |
|---|---|---|---|
| **Sample** | **1 mL** | **2 mL** | **5 mL** |
| Toluene | 60 | 60 | 56 |
| Benzene | 62 | 61 | 60 |
| Petroleum Ether | 62 | 59 | 57 |
| Diethyl Ether | 59 | 59 | 53 |
| Heptane | 60 | 58 | 54 |
| Ethyl Acetate | 59 | 57 | 50 |
| Methanol | 52 | 46 | 36 |
| Isopropanol | 55 | 49 | 39 |
| BTS-450 | 49 | 46 | 32 |
| Gl. Acetic Acid | 41 | 30 | 15 |
| Acetone | 46 (0.1 mL) | 40 (0.2 mL) | 27 (1.0 mL) |
| Methylene Cl | 38 (0.5 mL) | 25 (1.0 mL) | 22 (1.5 mL) |
| Phenol | 55 (0.02 mL) | 48 (0.04 mL) | 34 (0.1 mL) |
| Chloroform | 58 (0.02 mL) | 55 (0.04 mL) | 45 (0.1 mL) |

*Numbers in parentheses represent volume of sample. Other uses of BTS-450 include solubilization of blood, serum and feces.*

### Typical Samples Solubilized by 1 mL BTS-450

| Sample | Amount |
|---|---|
| Arteries | 20-100 mg |
| Brain | 80-130 mg |
| Cartilage | 20-55 mg |
| Cornea | 40-160 mg |
| Heart | 100-120 mg |
| Intestine | 80-100 mg |
| Kidney | 80-100 mg |
| Liver | 80-100 mg |
| Muscle | 100-220 mg |
| Nerve Cells | 50-100 mg |
| Pancreas | 50-140 mg |
| Spleen | 50-140 mg |
| Stomach | 80-100 mg |

*Other uses of BTS-450 include solubilization of blood, serum and feces.*

## Tissue Solubilizer BTS-450

| Part No. | Description |
|---|---|
| 580691 | BTS-450, 500 mL Bottle |

### Simple Sample Preparation

BTS-450 is a quaternary ammonium hydroxide (0.5 N) in toluene. It rapidly and economically digests proteinaceous tissues and tissue homogenates. Up to 0.45 mL of water can be dissolved in 1 mL BTS-450. Just follow a simple series of steps to solubilize and count:

- Weigh sample in a glass vial (see table at left).
- Add 1 mL BTS-450 and digest sample at 40°C-50°C until tissue dissolves.
- Decolorize with 30% $H_2O_2$.
- Add 70 µL glacial acetic to eliminate chemiluminescence.
- Add 10 mL Ready Organic and count.

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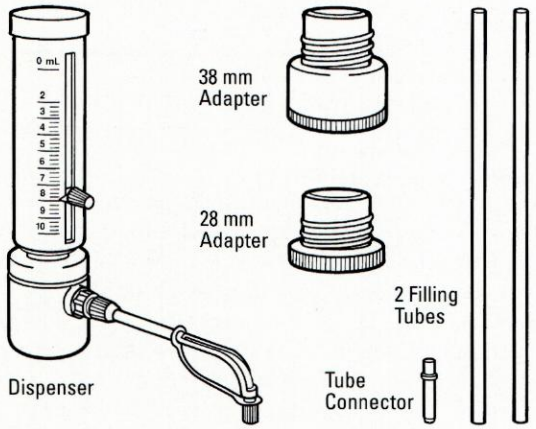
# Cocktail Dispenser and Standards



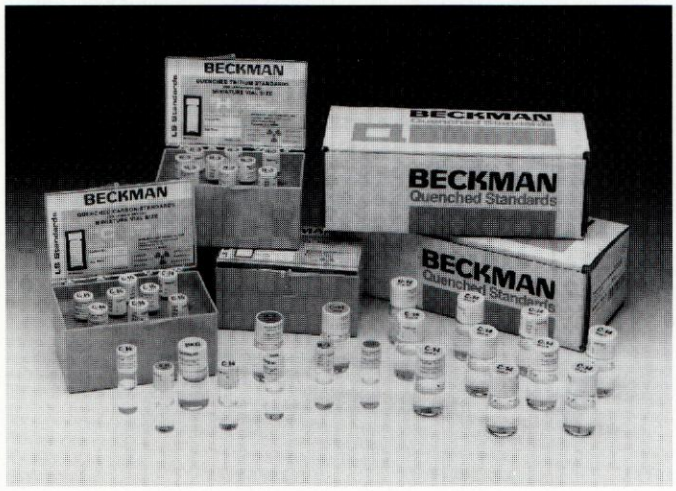

*Part No. 566777 Cocktail Dispenser*

*The 28 mm adapter is for Beckman caps prior to 1987 only. For Beckman bottles after 1987, the dispenser fits without any adapter.*

## Scintillation Cocktail Dispenser

This scintillation cocktail dispenser is volume adjustable from 2-10 mL and comes complete with two 225 mm Teflon filling tubes, one Teflon discharge tube and two polypropylene bottle adapters. Discharge tubes (set of two) and filling tubes (set of two) are available separately as replacement parts.

| Part No. | Description |
|---|---|
| **566777** | Dispenser, 2-10 mL. Includes two 225 mm Teflon filling tubes, one Teflon discharge tube and one polypropylene adapter and two bottle adapters |
| **140356** | Discharge Tubes, set of 2 |
| **140357** | 225 mm Filling Tubes, set of 2 |




*Calibration standards and quenched standard sets*

## Standards

All standards contain scintillation-grade fluors and toluene, and are permanently flame-sealed under nitrogen in low potassium glass standard or miniature vials. The calibration of each standard is referenced to the National Institute of Standards and Technology reference material. Accuracy of calibration is ± 3%.

### Quenched Standards to Establish Quench Curves

Quenched standards are used to establish quench correction curves. Each contains exactly the same amount of radioactivity, but is quenched progressively to lower counting efficiencies by the addition of a quenching agent. Each set contains ten standards.

| Part No. | Description | Size |
|---|---|---|
| **566681** | Quenched $^{14}C$ Standards | Standard Vial, 20 mL |
| **566680** | Quenched $^{3}H$ Standards | Standard Vial, 20 mL |
| **566682** | Quenched $^{14}C$ Standards | Mini-Vial, 7 mL |
| **566683** | Quenched $^{3}H$ Standards | Mini-Vial, 7 mL |

### Unquenched Standards for Optimal Instrument Performance

Unquenched standards are used to establish optimal instrument settings and to monitor long-term instrument performance. A set of three standards is provided: $^{14}C$, $^{3}H$ and a background standard.

| Part No. | Description | Size |
|---|---|---|
| **566321*** | Unquenched LS Standards | Standard Vial, 20 mL |
| **594946*** | Unquenched LS Standards | Mini-Vial, 7 mL |

** One set of unquenched standards is supplied with LS 6000 Series scintillation counting systems.*

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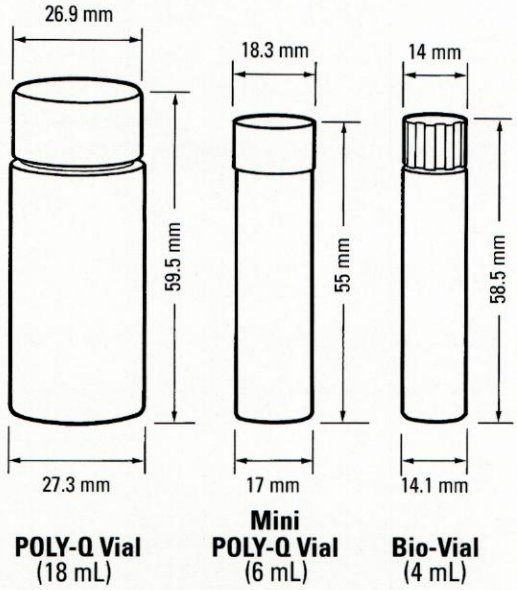
# Vials and Miscellaneous Supplies




## Plastic Vials

POLY-Q™ and Mini POLY-Q™ vials are made of high density linear polyethylene and have a very low permeability for the organic solvents used in LS cocktails. The Bio-Vial™ is manufactured from high density polypropylene, making it translucent and unbreakable, ideal for low speed centrifugation procedures. These vials reduce sample handling time as the vial caps either "snap-on" (Bio-Vial) or "twist-on" (POLY-Q and Mini POLY-Q) in a single movement. Tight and leakproof, the caps are smooth and have no serrations to irritate the hands when many samples are being capped.

| Part No. | Description | Quantity |
|---|---|---|
| 566350 | POLY-Q Vial, Polyethylene | 18 mL (Tray Pack of 500) |
| 566740 | POLY-Q Vial, Polyethylene | 18 mL (Bulk Pack of 1000) |
| 592928 | Mini POLY-Q Vial, Polyethylene | 6 mL (Bulk Pack of 2000) |
| 566353 | Bio-Vial, Polypropylene | 4 mL (Bulk Pack of 1000) |

## Miscellaneous LS 6000 Series Supplies

| Part No. | Description |
|---|---|
| 897516* | Paper, 8 1/2 × 11 inch, for Epson printers, 1000 fanfolded sheets |
| 596281* | Ribbon Cartridge for Epson LX-800 or P70RA printer |
| 945638* | Print Head for Epson LX-800 or P70RA printer |
| 233006* | Command Cards for Rack Numbers. Set of 1-63 and Interrupt |
| 454928* | Command Cards for User Numbers (1-20). Set of 23 user cards. Includes 20 user cards, Auto DPM Card, Auto Calibrate card and Halt card. |
| 455140 | Command cards for user Numbers (21-50) |
| 592883* | Rack, Standard Vial (white) |
| 594716* | Interrupt Rack, Standard Vial (yellow) |
| 594945* | Halt Rack, Standard Vial (red) |
| 606069* | Rack, Miniature Vial (blue) |
| 606068* | Interrupt Rack, Miniature Vial (yellow) |
| 606067* | Halt Rack, Miniature Vial (red) |
| 606089 | Bio-Vial Racks (green), set of ten. *Requires miniature rack system or Versa-Rack™ option* |
| 247971* | Operator's Manual for LS 6000 Series |
| 559981 | Service Manual for LS 6000 Series |

** Items are supplied with appropriate scintillation counting systems unless not required.*

## Miscellaneous Supplies for Systems Prior to LS 6000 Series

### Paper

| Part No. | Description |
|---|---|
| 886420 | LS 1800, 20-column, thermal paper, 3 rolls |
| 594956 | LS 5800, 3800, 2800, 80-column, thermal paper, 330 fanfolded with perforation (HP printer) |
| 594957 | LS 5800, 3800, 2800, 80-column, thermal paper, 100 pages per roll (HP printer) |
| 897261 | LS 9800, 7800, 6800, 80-column, thermal paper, 150-ft. roll, (CDI printer) |
| 188031 | LS 7000, 800, 8100, LS 100, LS 3100 "P" Series, Gamma 4000/5500, 7000/8000, Built-in printers, 20-column, 2.25 inch (Seiko printer), 10 rolls |
| 847806 | LS 7000, 800, 8100, LS 100, LS 3100 "P" Series, Gamma 4000/5500, 7000/8000, Texas Instruments "Silent 733," 300-ft. roll, thermal paper |
| 882749 | LS 7000, 800, 8100, LS 100, LS 3100 "P" Series, Gamma 4000/5500, 7000/8000, Texas Instruments "Silent 743," 100-ft. roll, thermal paper |
| 838986 | LS 3100 "T" Series, 333/345/355, Standard Teletype, 300-ft. roll |

### Ribbon

| Part No. | Description |
|---|---|
| 945637 | Epson LX-80, 86 ribbon (triangular shaped cartridge) |
| 929563 | Epson RX-80, FX-80/85, LX-800, FX-850, P70RA ribbon (long rectangular shaped cartridge, as wide as the paper) |
| 839986 | Teletype 33 ribbon |
| 886287 | Teletype 43 ribbon |
| 847591 | Seiko ribbon |

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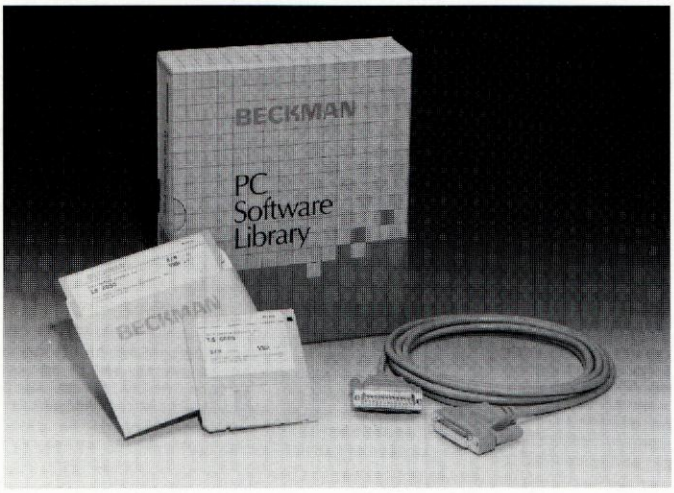



*Part No. 501016*

## Data Capture Software for Data Acquisition

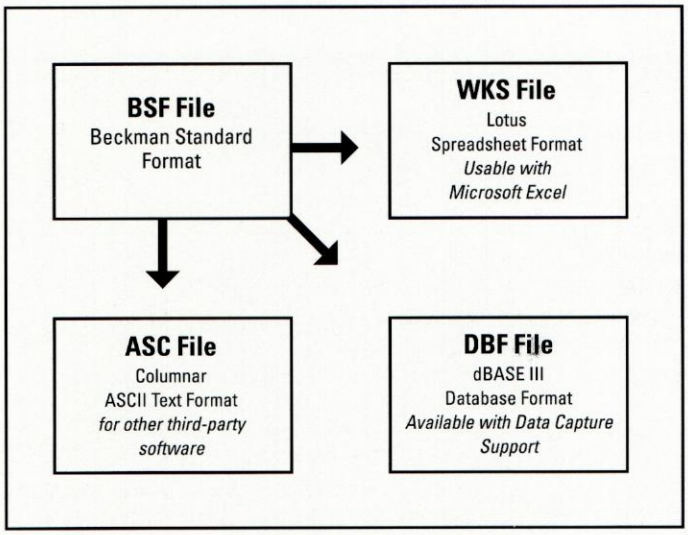
Collect, store and spectrum data automatically from Beckman scintillation sample counters onto DOS-formatted diskettes. The data are saved in compressed Beckman Standard Format (BSF) files for use with our applications software.

**Features:**

- Unique file name for each BSF file saved.
- Each file converts to formats directly compatible with third-party software.
- Easy retrieval of your data file while others are still counting.

| Part No. | Description |
|---|---|
| 501016 | LS 6000 Series Data Capture Software.<br>For LS 6000SE, SC, IC, TA, LL and LS 6500<br>3.5-inch diskettes, User's Manual and RS-232 cable included |

*Data Capture requires a minimum PC configuration of 512K RAM, two floppy disk drives, serial port and DOS 2.1 or higher.*




### Requirements

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 8088/86 | 80486 | 80486 or Pentium |
| Memory | 512 KB | 4 MB | 16 MB |
| Hard Disk | No | Yes | Yes |
| Monitor | Text | VGA | VGA |
| Mouse | No | No | Yes |
| Microsoft Windows | No | No | Yes |

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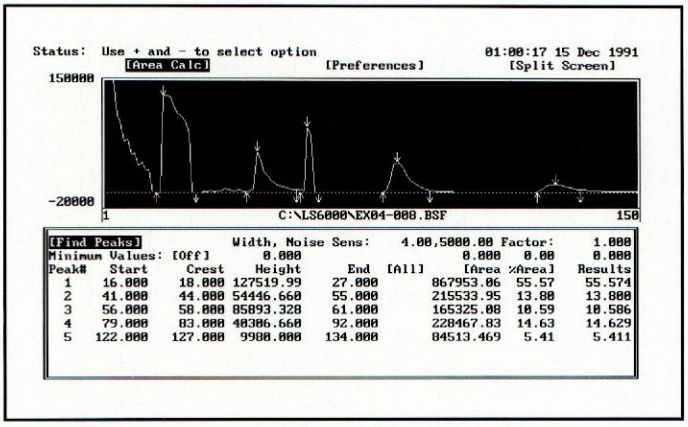
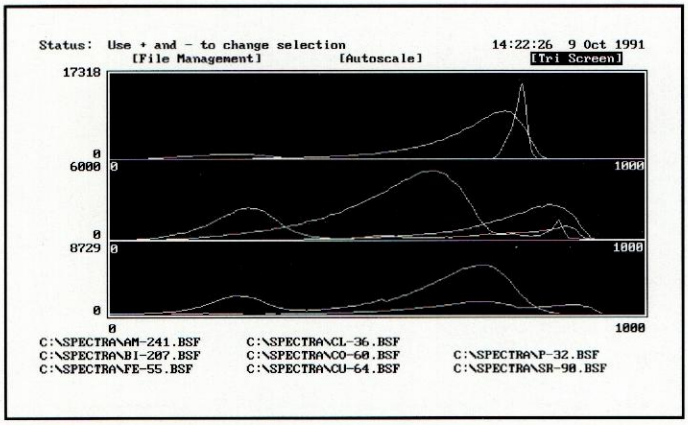



*Split-screen mode lets you display graphs and results simultaneously during Fraction Analysis.*




*Up to nine isotope spectra may be displayed in 1 to 3 separate windows.*

## Requirements

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 8088/86 | 80486 | 80486 or Pentium |
| Memory | 640 KB | 4 MB | 16 MB |
| Hard Disk | Yes | Yes | Yes |
| Monitor | EGA | VGA | VGA |
| Mouse | No | Yes | Yes |
| Microsoft Windows | No | No | Yes |

## IsoMAP 1 Spectrum and Fraction Analysis Software

IsoMAP 1 uses graphical tools to perform Fraction Analysis (Digital Integration) of experimental data and Spectrum Review and Analysis of isotope spectra. The program operates with or without a mouse.

### Spectrum Review and Analysis

View, manipulate and print/plot isotope spectra.

### Fraction Analysis

Locate and quantify peaks in isotope spectra or sample data (e.g., molecular sieve and ion-exchange chromatography, centrifuge gradient analysis).

### Features:

- Display of log or linear spectra.
- Display of up to nine files in any color combination.
- Built-in library of 37 spectra.
- Single, split (2) or tri (3) screen presentations.
- A variety of line styles and data markers.
- Screen annotation for customized labeling.
- Automatic peak search with a range of options. Zoom In/Out and Trace functions.
- Addition and subtraction of spectra.
- Selection of smoothing functions.
- Hard copy output to IBM or Epson dot-matrix printers.
- Support of X-Y plotter with HP-GL interface.

| Part No. | Description |
|---|---|
| 477076 | IsoMAP 1<br>3.5-inch Diskettes and User's Manual |

*Data Capture software or data buffer and transfer system is required. IsoMAP 1 accepts Beckman Standard Format (BSF) files for spectrum review from LS 6000 Series counters only. For Fraction Analysis, BSF files from earlier Beckman counters can also be used.*



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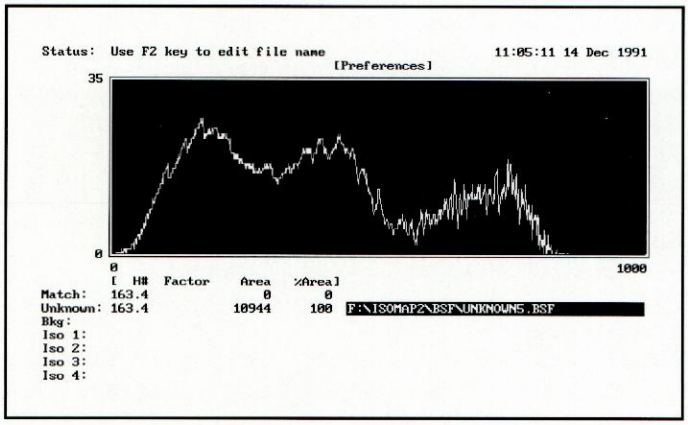
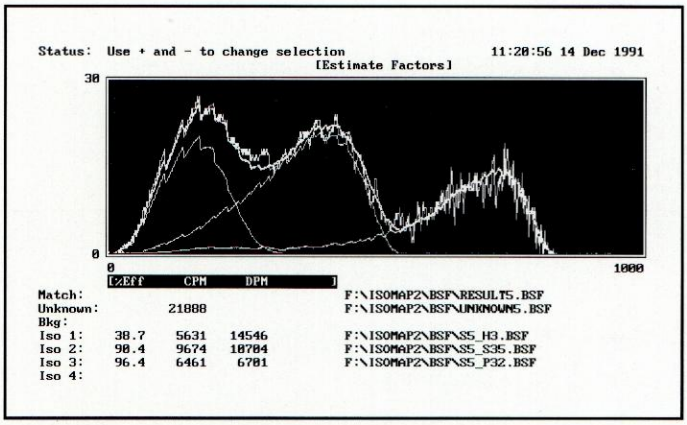



*Spectrum with unknown isotopes.*




*Graphical matching techniques are used to identify and quantitate isotope components in unknown spectra.*

*Pull down menu with graphics function.*

## IsoMAP 2 Multiple Isotope Identification Software

This graphics-based program performs isotope identification for up to four unknown isotopes in a single sample and computes absolute activities (DPM) for each component identified. Valuable for environmental scientists and health physicists performing radioactive waste disposal monitoring.

**Features:**

- Direct data entry of logarithmic BSF files from LS 6000 Series scintillation counters.
- Graphical comparison and matching of an unknown spectrum with up to four isotope library spectra.
- Display of spectra in any color combination.
- Automatic channel-by-channel subtraction of a background spectrum from the unknown spectrum.
- Automatic estimation of factors for spectral matching.
- On-screen display of keV and channel values.
- Automatic DPM computation for each identified component in the unknown spectrum.
- Screen annotation for customized labeling.
- Zoom In/Out for detailed spectral matching.
- Hard copy output to IBM or Epson dot-matrix printers.

| Part No. | Description |
|---|---|
| 477077 | IsoMAP 2<br>3.5-inch Diskettes and User's Manual |

*Data Capture software or data buffer and transfer system is required. IsoMAP 2 accepts Beckman Standard Format (BSF) log spectrum files from LS 6000 Series scintillation counters.*

### Requirements

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 8088/86 | 80486 | 80486 or Pentium |
| Memory | 640 KB | 4 MB | 16 MB |
| Hard Disk | Yes | Yes | Yes |
| Monitor | EGA | VGA | VGA |
| Mouse | No | Yes | Yes |
| Microsoft Windows | No | No | Yes |

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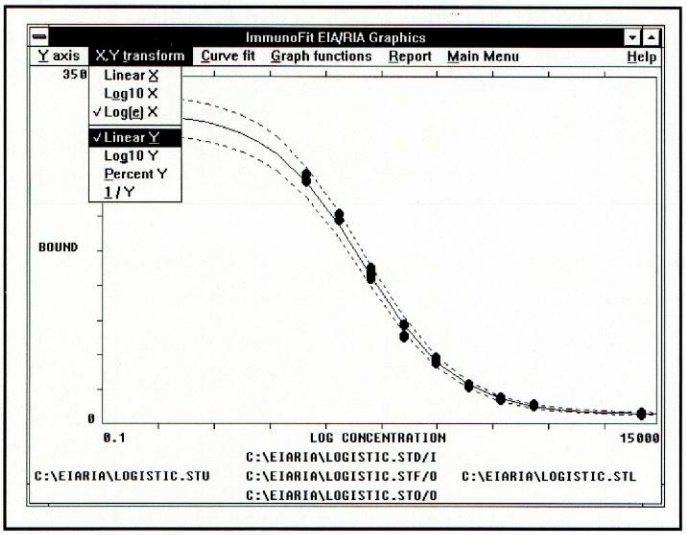
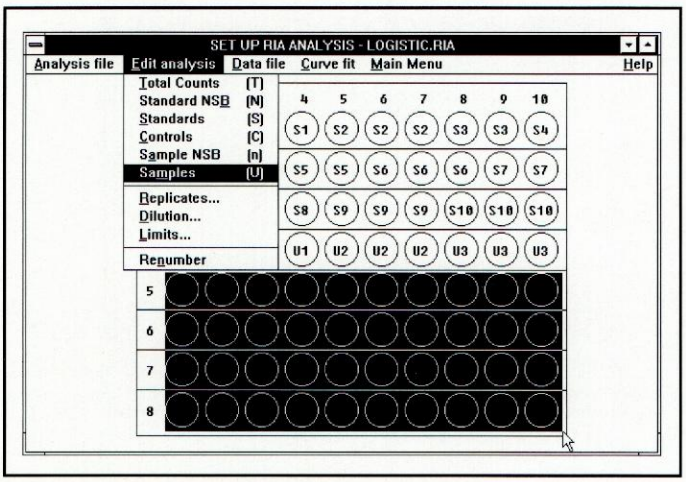



*ImmunoFit takes full advantage of the graphical user interface provided by Microsoft Windows.*




*ImmunoFit lets you customize assay design easily.*

## Requirements

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 80286 | 80486 | 80486 or Pentium |
| Memory | 4 MB | 8 MB | 16 MB |
| Hard Disk | Yes | Yes | Yes |
| Monitor | EGA | VGA | VGA |
| Mouse | No | Yes | Yes |
| Microsoft Windows | Yes | Yes | Yes |

## ImmunoFit EIA/RIA 3.0

ImmunoFit™ performs radioimmunoassay (RIA) and enzyme immunoassay (EIA) calculations on data obtained from LS and gamma counting systems, and the Biomek® 2000 Laboratory Automation Workstation. The software is fully compatible with Microsoft Windows 3.0 (mouse is recommended).

**Features:**

- Pop-up windows and pull-down menus.
- Semi-automated operation.
- Selection of five different curve-fitting routines.
- Correct weighting based on historical error curve.
- Precision profile for assay performance monitoring.
- Automatic or manual.
- Customized printed reports for each assay.
- Built-in, context-sensitive HELP.

| Part No. | Description |
|---|---|
| 586406 | ImmunoFit EIA/RIA 3.0<br>3.5-inch Diskettes and User's Manual |

*Data Capture software or data buffer and transfer system is required.*



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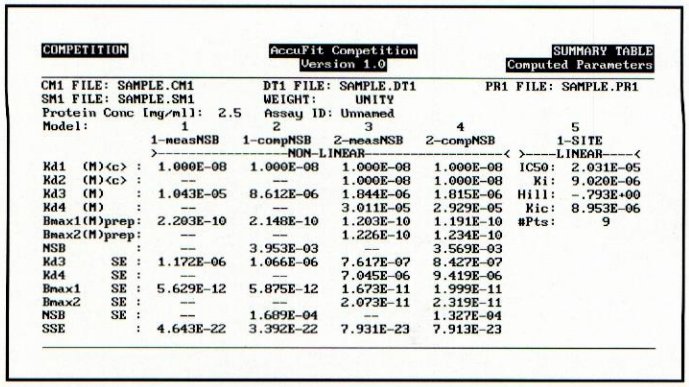
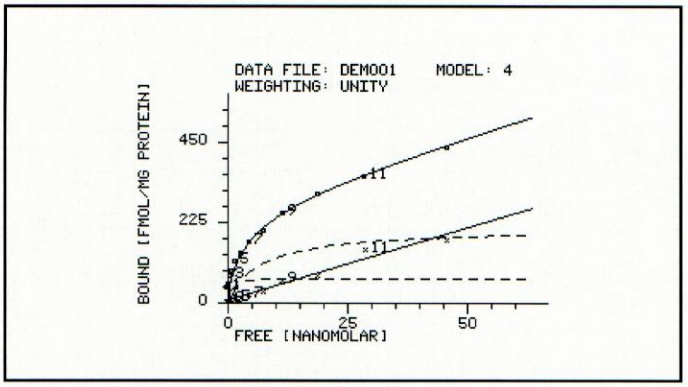


COMPETITION — AccuFit Competition Version 1.0 — SUMMARY TABLE Computed Parameters

CM1 FILE: SAMPLE.CM1 DT1 FILE: SAMPLE.DT1 PR1 FILE: SAMPLE.PR1
SM1 FILE: SAMPLE.SM1 WEIGHT: UNITY
Protein Conc [mg/ml]: 2.5 Assay ID: Unnamed

| Model: | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| | 1-measNSB | 1-compNSB | 2-measNSB | 2-compNSB | 1-SITE | |
| | >----NON-LINEAR----< | | | | >---LINEAR---< | |
| Kd1 (M)<c> : | 1.000E-08 | 1.000E-08 | 1.000E-08 | 1.000E-08 | IC50: | 2.031E-05 |
| Kd2 (M)<c> : | -- | -- | 1.000E-08 | 1.000E-08 | Ki: | 9.020E-06 |
| Kd3 (M) : | 1.043E-05 | 8.612E-06 | 1.844E-06 | 1.815E-06 | Hill: | -.793E+00 |
| Kd4 (M) : | -- | -- | 3.011E-05 | 2.929E-05 | Kic: | 8.953E-06 |
| Bmax1(M)prep: | 2.203E-10 | 2.148E-10 | 1.203E-10 | 1.191E-10 | #Pts: | 9 |
| Bmax2(M)prep: | -- | -- | 1.226E-10 | 1.234E-10 | | |
| NSB : | -- | 3.953E-03 | -- | 3.569E-03 | | |
| Kd3 SE : | 1.172E-06 | 1.066E-06 | 7.617E-07 | 8.427E-07 | | |
| Kd4 SE : | -- | -- | 7.045E-06 | 9.419E-06 | | |
| Bmax1 SE : | 5.629E-12 | 5.875E-12 | 1.673E-11 | 1.999E-11 | | |
| Bmax2 SE : | -- | -- | 2.073E-11 | 2.319E-11 | | |
| NSB SE : | -- | 1.689E-04 | -- | 1.327E-04 | | |
| SSE : | 4.643E-22 | 3.392E-22 | 7.931E-23 | 7.913E-23 | | |

*Progressively more complex models are computed automatically and the results presented in the summary table.*




*Data may be displayed and printed in a variety of graphs.*

### Requirements (Saturation)

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 8088/86 | 80486 | 80486 or Pentium |
| Memory | 640 KB | 4 MB | 16 MB |
| Hard Disk | Yes | Yes | Yes |
| Monitor | CGA | VGA | VGA |
| Mouse | No | No | Yes |
| Microsoft Windows | No | No | Yes |

### Requirements (Competition)

| | Minimum | Recommended | Multitasking |
|---|---|---|---|
| Processor | 80286 | 80486 | 80486 or Pentium |
| Memory | 1 MB | 4 MB | 16 MB |
| Hard Disk | Yes | Yes | Yes |
| Monitor | CGA | VGA | VGA |
| Mouse | No | No | Yes |
| Microsoft Windows | No | No | Yes |

## AccuFit Software for Receptor Analysis

### AccuFit™ Saturation — Two Site

This program computes 1- and 2-site models for LS and gamma counter data from receptor saturation assays.

### AccuFit Competition

This program computes 1- and 2-site models for LS and gamma counter data from receptor competition assays.

### Features:

- Utilize non-linear least squares regression analysis to solve the equations that describe the chemical equilibria in the assay tubes.
- No user-supplied initial estimates of final answers are required.
- Automated data entry as Beckman Standard Format (BSF) files from LS and gamma counters. Manual data entry is also possible.
- Operate in batch mode — up to 91 data files may be processed automatically; ideal for multitasking.
- Progressive Complexity Analysis to compute progressively more complex models automatically.
- Built-in statistical tests (Runs and F-tests) to aid in unbiased selection of the best computed mode.
- Built-in HELP functions.
- Customized printed reports for each assay.
- Flexibility of experimental design — programs use experimentally-measured or internally-computed nonsaturable binding (NSB) values.
- Rapid spreadsheet data editing — temporary and permanent modes.
- Graphics — selection of coordinates, automatically scaled and labeled.

| Part No. | Description |
|---|---|
| 477506 | AccuFit Saturation — Two Site<br>3.5-inch Diskettes and User's Manual |
| 477505 | AccuFit Competition<br>3.5-inch Diskettes and User's Manual |

*Data Capture Software is required.*

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# Radioisotope Flow Detector and Accessories

*Part No. 596800*

## Model 171 Radioisotope Flow Detector

A dual-channel detector designed to accurately and efficiently detect any energy beta or gamma isotope, single or dual label.

| Part No. | Description |
|---|---|
| **596800** | 171 Solid System, 115V, 50/60 Hz |
| **596801** | 171 Solid System, 240V, 50/60 Hz |
| **596802** | 171 Liquid System, 115V, 50/60 Hz |
| **596803** | 171 Liquid System, 240V, 50/60 Hz |

*Solid System includes: Quick Change Cell, two interchangeable cartridges (125 µL and 300 µL).*

*Liquid System includes: 110B Deluxe LC Pump, Flow Rate Controller, Pump Stand, High Efficiency Mixer and Liquid Flow Cell of variable volume (200 µL to 2750 µL).*

### Features:

- Liquid Crystal Display provides 4-line, 40-character, detailed, easy-to-read prompts.
- Eight user programs can be stored, ready for use at the press of a button.
- Menu-driven programming guides you quickly and easily through the parameter set-up screens with easy-to-understand prompts.
- HELP screens explain in detail the input needed to ensure accurate results.
- Two selectable counting windows allow single- or dual-label counting.
- Pre-set Window automatically uses the most accurate counting window, even for dual-label experiments. Simply select the isotope: $^{3}H$, $^{14}C$, $^{32}P$, $^{35}S$ or $^{125}I$.
- Auto-Isoset™ automatically determines and stores the correct window setting for an additional 25 isotopes, not mentioned above.
- CPM or DPM Output corrects CPM results by a constant counting efficiency, giving DPM.
- Normalization Factor per isotope converts results into any unit.
- Auto-Background Subtract automatically subtracts the background for every individual run, assuring accurate data when using auto injectors.
- Luminescence Correction detects the presence of interfering luminescences, prints out the amount and automatically corrects the final result.
- Cell Set™ self-adjusting circuitry for optimal detection efficiency for solid and liquid cells.
- Memory Protect retains all programs during a power outage. When power is resumed the 171 "comes up running," saving valuable time.
- Cold Room Compatibility ensures stable performance in the cold room.
- Auto Start and Stop allows complete hands-off operation when using auto-injectors.
- Automatic Fraction Collector control automatically controls peak collection, detecting the beginning and end of each peak and pooling it into one tube.
- Dual Analog Output provides single or dual analog tracings on the chart recorder.

## Radioisotope Flow Detector Accessories

| Part No. | Description |
|---|---|
| **523903** | Scintillation Test Kit |
| **596852** | UV Tracing Accessory receives analog output from a second detector (UV, electrochemical, etc.). Requires printer (P/N 523096) and Peak-Plot Software (P/N 596855); or recorder or computer |
| **605313** | High Resolution Analog Output Accessory is recommended for analog output to an external integrator |
| **596830** | Stream Splitter is used with the liquid system to fraction off any samples prior to mixing with scintillant |
| **605316** | Manual Sample Holder holds one 12 × 75 mm test tube |
| **596851** | Liquid System Option uprades Solid System to Liquid System |
| **605323** | System Gold® Interface puts the 171 detector on the Gold Bus *Requires System Gold Software version 3.8 or greater* |
| **605326** | System Gold Interface Kit for existing 171 Radiochromatography detectors |



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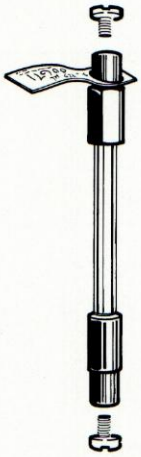
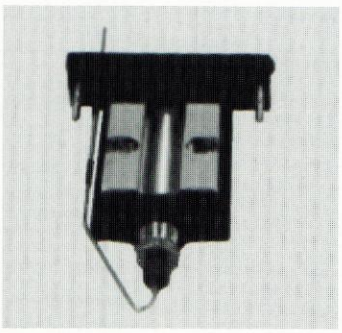
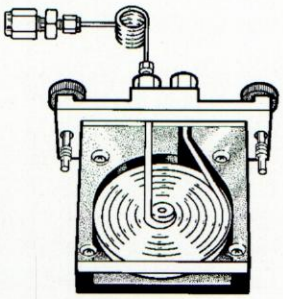
# Radioisotope Flow Detector Supplies and Replacement Parts



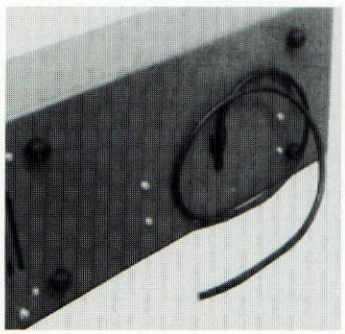
*Cartridge*
*Part No. 596806*



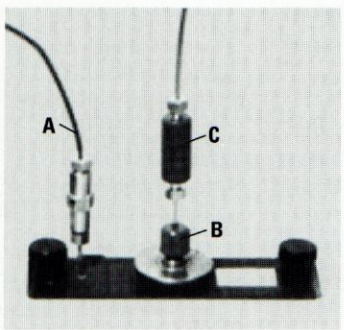
*Solid Scintillator Cell*
*Part No. 596863*



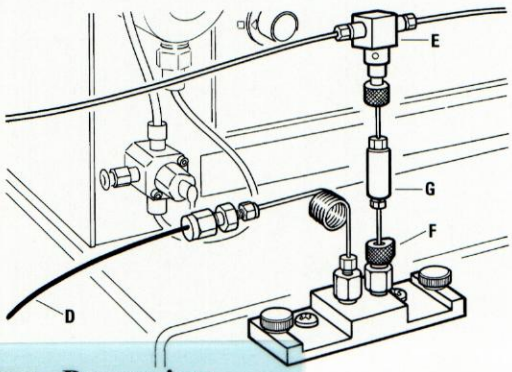
*Liquid Cell*
*Part No. 605351*



*Black Drain Tubing*
*Part No. 605260*




*Tubing for Solid Cell*




*Tubing for Liquid Cell*

## Solid Scintillator Cells

| Part No. | Description |
|---|---|
| 596862 | Solid Cell 300 µL, includes 1 cartridge |
| 596863* | Solid Cell 125 µL, includes 1 cartridge |

## Cartridge

| Part No. | Description |
|---|---|
| 596804 | 125 µL Cartridge, package of 1 |
| 596805 | 125 µL Cartridge, package of 3 |
| 596806* | 300 µL Cartridge, package of 1 |
| 596807 | 300 µL Cartridge, package of 3 |

## Liquid Cells

| Part No. | Description |
|---|---|
| 605335 | Liquid Cell, pre-wound to 200 µL (1/16-in. OD, 1/32-in. ID tubing) |
| 605336 | Liquid Cell, pre-wound to 500 µL (1/16-in. OD, 1/32-in. ID tubing) |
| 243201 | Clear Teflon Tubing (1/16-in. OD, 1/32-in. ID tubing, 10 ft.) |
| 605350 | Liquid Cell, pre-wound to 2750 µL (1/8-in. OD, 0.093-in. ID tubing) |
| 605351** | Liquid Cell, pre-wound to 1000 µL (1/8-in. OD, 0.093-in. ID tubing) |
| 605341 | Clear Teflon Tubing (1/8-in. OD, 0.093-in. ID tubing, 32 in.) |

## Fittings and Tubing

| Part No. | Description |
|---|---|
| 605260** | Black Drain Tubing |

### For Solid Cells

| Part No. | Description | Illustration Key |
|---|---|---|
| 605258 | Black Teflon Exit Tubing (1/16-in. OD, 5 ft.) | A |
| 945670 | Red Fingertight For use with solid cell | B |
| 960037 | Isolation Fitting | C |

### For Liquid Cells

| Part No. | Description | Illustration Key |
|---|---|---|
| 605338 | Black Exit Tubing For use with exit coil on liquid cell | D |
| 596809** | High Efficiency Mixer For liquid system | E |
| 945670 | Red Fingertight For use with solid cell | F |
| 960037 | Isolation Fitting | G |

## Supplies

| Part No. | Description |
|---|---|
| 247288*/** | Operator's Manual for 171 Radioisotope Detector |
| 929563 | Ribbon Cartridge for Epson Printer |
| 897516 | Paper for Epson Printer 1000 fanfolded sheets |

* *Included with 171 Solid System (P/N 596800 and P/N 596801)*
** *Included with 171 Liquid System (P/N 596802 and P/N 596803)*

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# Applications and Technical Literature

## Article Reprints

| Bulletin No. | Description |
|---|---|
| 007-186 | Liquid Scintillation Analysis of $^{222}Rn$ in Water by Alpha/Beta Discrimination |
| 007-212 | Solid Scintillation Analysis of $^{222}Rn$ in Water by Alpha/Beta Discrimination |

## Brochures

| Bulletin No. | Description |
|---|---|
| BR-7884B | Scintillation Supplies and Sample Preparation Guide |
| BR-7885B | LS 6500 Advanced Technology Guide |
| BR-7886B | PC & Software Guide |
| BR-7894B | Alpha/Beta Discrimination on Liquid Scintillation Counters Primer |
| BR-7932B | LS 6500 Scintillation System — The Counter Solution |

## Newsletters

| Bulletin No. | Description |
|---|---|
| 007-11 | Nuclear Counting Exchange (Vol. I, No. I) |
| 007-13 | Nuclear Counting Exchange (Vol. I, No. II) |
| 007-122 | Nuclear Counting Exchange (Vol. II, No. I) |
| 007-14 | Nuclear Counting Exchange (Vol. II, No. II) |
| 007-15 | Nuclear Counting Exchange (Vol. III, No. I) |
| 007-16 | Nuclear Counting Exchange (Vol. III, No. II) |
| 007-17 | Nuclear Counting Exchange (Vol. IV, No. I) |

## Technical Information Bulletins

| Bulletin No. | Description |
|---|---|
| T-1659 | Obtaining Radioactivity Data with Model 171 and System Gold® |
| T-1715* | Calibration of Alpha/Beta Discrimination Using the LS 6000 Series Scintillation Counters |
| T-1730* | Data Buffer & Transfer System: A Feature to Simplify Data Acquisition on the LS 6000 Series |
| T-1731** | IsoMAP 2: A Program to Provide Semi-Automated Isotope Identification and Quantitation |
| T-1760* | Radioactive Waste Manager: A Convenient Tool for Automatic Radioactive Waste Tracking on LS 6000 Series Scintillation Counters |

* *Available with BR-7885B, LS 6500 Advanced Technology Guide*
** *Available with BR-7886B, PC & Software Guide*

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